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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/060,039	01/30/2002	Edward M. Scheidt	STS 139	6541

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07/16/2003

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EXAMINER

ARANI, TAGHI T

ART UNIT

PAPER NUMBER

2131

DATE MAILED: 07/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/060,039

Applicant(s)

SCHEIDT ET AL.

Examiner

Taghi T. Arani

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claims 1-30 were pending for examination.

Claims 1-30 are rejected.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Claims 1-6 are rejected under 35 U.S.C. 102a) as being anticipated by Gullman et al., US Pat. No. 5280,527 issued Jan 1994.

Gullman teaches a biometric security mechanism which generates a security token which a user inputs to an access device. Gullman's security token is formed from biometric information (i.e. biometric-based data instance), a fixed code and, a time varying code, see col. 3, lines 37-55. Gullman's fixed code includes a PIN (i.e. knowledge-based data instance), embedded serial number, account number (i.e. possession-based data instance), see col. 2, lines 48-65.

Gullman further teaches that the security apparatus receives the biometric input, and then compares the biometric input to a stored template to derive a correlation factor. The correlation factor is combined with the fixed code to generate a security token (i.e. an authentication code).

Gullman further teaches that the security token is displayed on a display panel of the security apparatus where it is entered at an access code or is directly transmitted to a host system which decodes the token to identify the embedded fixed code and correlation factor, see col. 4, lines 3-22.

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Gullman teaches that the host system determines whether to grant to user the access to the host system. This determination is based on a comparison made on a transmittable code which includes the above described authentication code, see col. 7, lines 1-33.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7-30 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Gullman and further in view of Gennaro et al, US Pat. No. 6,317,834 filed Jan. 1999.

As per claims 7, 9, 10 and 12-14, 25-26, Gullman teaches that the processor of the security apparatus may include a standard encryption module which applies an encryption algorithm to the time of day from real time clock, the fixed code (which includes PIN, serial number and account number) and a biometric correlation factor, generating an encrypted security token (that is, an encrypted authentication code). Gullman further teaches that the host system also includes a decryption module, capable of decrypting the encrypted code generated by the encryption module of biometric security apparatus, but fails to specifically disclose “generating a key based on a first data instance of the plurality of factor-based data instances” and “applying the key to at least one modified data instance to generate a recovered data instance” and “interrogating the recovered data instance against the second data instance to generate an authentication value”.

However, Gennaro teaches a method of performing biometric authentication of a person's identity including a biometric template prior to storing it in a biometric database, see abstract.

Gennaro's method further provides means for verifying the identity of an individual to authorize access to a general database comprising the steps of:

Acquiring a current biometric sample (i.e. a biometric-based data instance), acquiring a current personal identifier (i.e. a knowledge based data instance); acquiring decryption key generation data (i.e. a plurality of factor –based data instances); comparing the personal identifier with the database, and on a match with a personal identifier in the database; creating a decryption key from decryption key generation data; performing a decryption operation on the retrieved biometric (i.e. recovered biometric) record utilizing the decryption key to decrypt encrypted biometric model from the retrieved record. Comparing the decrypted biometric model with the current biometric sample to verify the individual as authorized to access the general database, see col. 2, line 6-21.see also Fig. 5 and 6.

Gennaro further teaches that a first encryption key is created from the user's password (i.e. one of factor of plurality of factor-base data instances) and is used to encrypt the biometric model. That is, a modified data instance is created based on a second data instance of a plurality of factor based data instances.

It would have been obvious to one ordinary skill in the art to modify Gullman's biometric security apparatus to employ Gennaro's method of authentication with encrypted models to store biometric information in a secure manner so as to prevent the occurrence of theft and attacks from unauthorized personnel, see also 1, lines 40-55.

As per claim 11, Gullman's encrypted security token includes an embedded serial number (i.e. a possession-based data instance), see col. 2, line 55-56.

As per claim 8, in another embodiment, Gennaro further teaches a key derived from a randomly chosen subset of answers obtained as a result of conducting a challenge question/answer session with the individual. Then, biometric template and the full set of answers are combined and encrypted. That is, the biometric record is comprised of the personal identifier and challenge list in plaintext, along with the encrypted answers (i.e. another authentication value) and biometric model (i.e. a first authentication value), see col. 9, lines 31-46, see also Fig. 7a.

As per claims 15 – 18 and 20-24, 27-30, Gullman teaches that the security apparatus initially is configured in an enroll mode where biometric samples or templates (i.e. first biometric data instance) are obtained. Gullman further teaches that the access device transmits a derived token (i.e. a second modified version of biometric data instance) to the host system, which decrypts or decodes the token to derive the fixed code and a correlation factor. If the fixed code identifies a valid user and the correlation factor is above the threshold level, then access is permitted, if not, then access is denied, see col. 6, lines 30-45.

Gullman fails to teach a modified version of first and second biometric data instance where the second modified version is a hash of second biometric-based data instance. However, use of hash function and message digest using a one directional hash function is well known in the art of cryptography, this is taken as official notice. It would have been obvious to one ordinary skill in the art to hash the biometric templates or samples of Gullman at enrollment for security and space requirement.

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Conclusion

Any inquiry concerning this communication or earlier communications from examiner should be directed to Taghi Arani, whose telephone number is (703) 305-4274. The examiner can normally be reached Monday through Friday from 7:30 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh, can be reached at (703) 305-9648. The Fax numbers for the organization where this application is assigned are:

After-final (703) 746-7238


Official (703) 746-7239

Non-Official/Draft (703) 746-7240

Taghi Arani

Patent Examiner

June 28, 2003


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